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Patent claims

1. AAA server system (RADSS) incorporating numerous AAA servers (RAD1, RAD2, RAD3) for the administration of a pool (A) of logical
5   addresses (IP1,...,IPN),
characterized in that
- there are several disjoint subsets (A1, A2, A3) of the address pool (A),
- each of the disjoint subsets (A1, A2, A3) of the address pool (A)
10   is assigned to exactly one AAA server (RAD1, RAD2, RAD3), and
- the logical addresses of each of the subsets (A1, A2, A3) of the address pool (A) can only be assigned to a terminal device by the associated AAA server (RAD1, RAD2, RAD3).

15   2. AAA server system in accordance with Claim 1,
characterized in that
- the logical addresses (IP1,...,IPN) are specified by IP (Internet Protocol) addresses.

20   3. AAA server system in accordance with Claim 1 or 2,
characterized in that
- logical addresses for terminal devices can be assigned by the AAA servers (RAD1, RAD2, RAD3) of the AAA server system (RADSS), by means of the RADIUS protocol or the DIAMETER protocol.
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4. AAA server system in accordance with one of the preceding Claims,
characterized in that
- messages can be exchanged between the AAA servers (RAD1, RAD2, RAD3) of the AAA server system (RADSS) by means of the Internet
30   Protocol.

5. AAA server system in accordance with one of the preceding Claims,
characterized in that

- the entire pool (A) of logical addresses (IP1,...,IPN) is stored
on all the AAA servers (RAD1, RAD2, RAD3) of the AAA server system
(RADSS).

5 6. AAA server system in accordance with one of the preceding Claims,
characterized in that
- the assignment of subsets (A1, A2, A3) of the address pool (A) to
AAA servers (RAD1, RAD2, RAD3) can be changed dynamically.

10 7. AAA server system in accordance with one of the preceding Claims,
characterized in that
- there are several address pools (A) of logical addresses, of which
disjoint subsets (A1, A2, A3) are assigned to AAA servers (RAD1,
RAD2, RAD3) of the AAA server system (RADSS),
15 - there are different service classes, and
- for the purposes of issuing logical addresses in the context of a
service from one of the service classes, different address pools (A)
are assigned to exactly one service class.

20 8. AAA server system in accordance with one of the preceding Claims,
characterized in that
- messages can be exchanged between the AAA servers (RAD1, RAD2,
RAD3) of the AAA server system (RADSS) by means of the TCP/IP
protocol.
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9. AAA server system in accordance with one of the preceding Claims,
characterized in that
- at least two of the AAA servers (RAD1, RAD2, RAD3) of the AAA
server system (RADSS) are located in different places.
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10. Method for updating information in an AAA server system in
accordance with Claim 1, whereby

- an updating message (UpdtRAD1, UpdtRAD2, UpdtRAD3) is sent regularly by a first AAA server (RAD1, RAD2, RAD3) of the AAA server system (RADSS) to all the other AAA servers (RAD1, RAD2, RAD3) of the AAA server system (RADSS),

5 - this updating message (UpdtRAD1, UpdtRAD2, UpdtRAD3) incorporates information about changes to the status of the subsets (A1, A2, A3) of the address pool (A) which are assigned to the first AAA server (RAD1, RAD2, RAD3), which have taken place since the previous updating message (UpdtRAD1, UpdtRAD2, UpdtRAD3).

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11. Method in accordance with Claim 10,
characterized in that
- before the updating message (UpdtRAD1, UpdtRAD2, UpdtRAD3) is sent, an estimate is made in the first AAA server (RAD1, RAD2, RAD3)

15 of the logical addresses which will be issued in the time period between the updating message which is about to be sent (UpdtRAD1, UpdtRAD2, UpdtRAD3) and the next-following updating message (UpdtRAD1, UpdtRAD2, UpdtRAD3),
- subsets (A1, A2, A3) of the address pool (A), which are assigned

20 to the first AAA server (RAD1, RAD2, RAD3), are selected from which to take the logical addresses which, according to the estimate, will be required in the time period, and
- the updating message (UpdtRAD1, UpdtRAD2, UpdtRAD3) also contains information about which of the subsets (A1, A2, A3) of the address

25 pool (A), which are assigned to the first AAA server (RAD1, RAD2, RAD3), have been selected from which to take the logical addresses which, according to the estimate, will be required in the time period.

30 12. Method in accordance with Claim 11,
characterized in that
- the estimate is made by forming the product of the maximum rate at which the AAA server (RAD1, RAD2, RAD3) can process requests for the issue of a logical address and the time period between the

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updating message (UpdtRAD1, UpdtRAD2, UpdtRAD3) which is about to be
sent and the next-following updating message (UpdtRAD1, UpdtRAD2,
UpdtRAD3).

5   13. Method in accordance with one of the Claims 10 to 12,
characterized in that
- the first AAA server (RAD1, RAD2, RAD3) checks whether the subsets
(A1, A2, A3) of the address pool (A) which will be required
according to the estimate are available, and
10   - if the result of the check by the first AAA server (RAD1, RAD2,
RAD3) is negative, the assignment of a subset from another AAA
server (RAD1, RAD2, RAD3) to the first AAA server (RAD1, RAD2, RAD3)
is effected

15   14. Method in accordance with one of the Claims 10 to 12,
characterized in that
in the event of the failure of the first AAA server (RAD1, RAD2,
RAD3), the subsets (A1, A2, A3) of the address pool (A) which are
assigned to the first AAA server (RAD1, RAD2, RAD3) are assigned to
20   a second AAA server (RAD1, RAD2, RAD3).

15. Method in accordance with Claim 14,
characterized in that
the second AAA server (RAD1, RAD2, RAD3) is selected in accordance
25   with the stipulations of a priority list of AAA servers (RAD1, RAD2,
RAD3).

16. Method in accordance with Claim 11 and one of the claims 14 or
15,
30   characterized in that
if a first AAA server (RAD1, RAD2, RAD3) fails the subsets (A1, A2,
A3) of the address pool (A), which according to the last updating
message received by the second AAA server (RAD1, RAD2, RAD3) from
the first AAA server (RAD1, RAD2, RAD3) have been selected from
35   which to take the logical addresses which according to the estimate
will be required in the time period, will not be

used for the reissuing of logical addresses (IP1, ..., IPN) for a period of time.

17. Method in accordance with Claim 16,

characterized in that

the time period will be determined in accordance with the stipulations for the maximum permissible connection time.

18. Method in accordance with one of the preceding Claims,

characterized in that

- a second AAA server (RAD1, RAD2, RAD3) is rebooted, and

- the second AAA server (RAD1, RAD2, RAD3) transmits a multicast message to all the other AAA servers (RAD1, RAD2, RAD3) of the AAA server system (RADSS), by which it requests the dispatch of updating messages (UpdtRAD1, UpdtRAD2, UpdtRAD3) and the assignment of subsets (A1, A2, A3) of the address pool (A) to the first AAA server (RAD1, RAD2, RAD3).

19. Method in accordance with one of the preceding Claims,

characterized in that

- the TCP/IP protocol, the RADIUS protocol or the DIAMETER protocol is used as the transport protocol for the communication of updating messages (UpdtRAD1, UpdtRAD2, UpdtRAD3)